

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 November 2004 (25.11.2004)

PCT

(10) International Publication Number
WO 2004/101265 A1

(51) International Patent Classification⁷: B31C 3/00, 11/00

(21) International Application Number:
PCT/IT2004/000253

(22) International Filing Date: 7 May 2004 (07.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
FI2003A000133 15 May 2003 (15.05.2003) IT

(71) Applicant (for all designated States except US): **FABIO PERINI S.p.A.** [IT/IT]; Zona Ind.le P.I.P. Mugnano Sud, I-55100 Lucca (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GELLI, Mauro**

[IT/IT]; Via del Marginone 24, Fraz. Pieve S. Paolo, I-55066 Capannori, Lucca (IT). **CHIOCCHETTI, Mario, Gioni** [IT/IT]; Via di Tiglio, 612, Pieve di Compito, I-55065 Capannori, Lucca (IT).

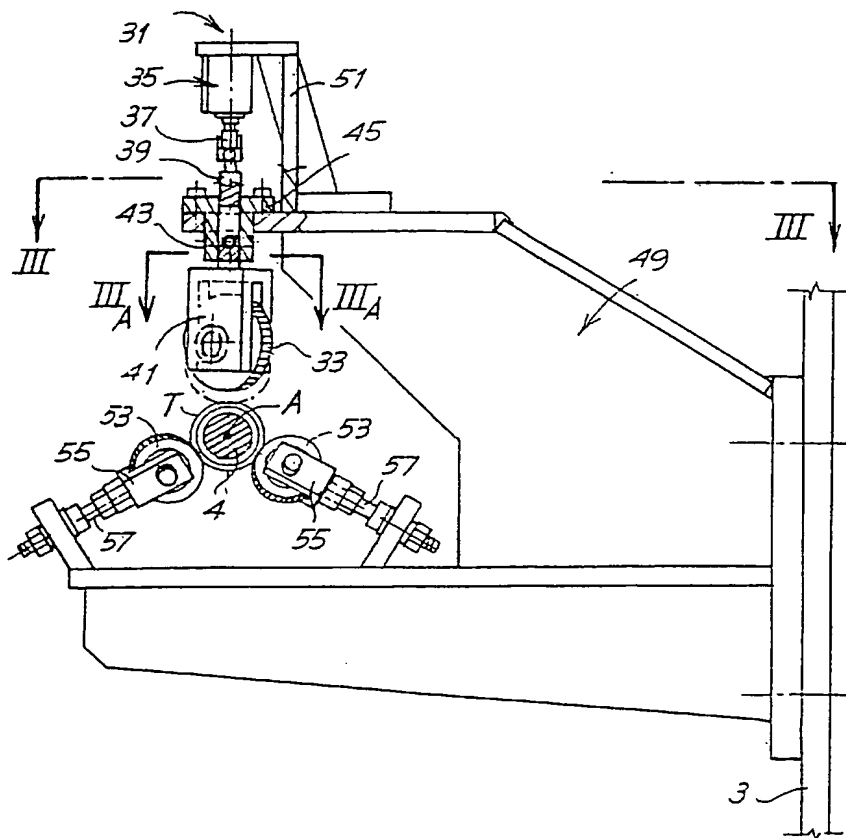
(74) Agents: **MANNUCCI, Michele** et al.; Uff. Tecn. Ing. A. Mannucci S.r.l., Via della Scala, 4, I-50123 Firenze (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: MACHINE AND METHOD FOR FORMING HELICALLY WOUND PAPER TUBES HAVING IMPROVED MECHANICAL RESISTANCE



(57) Abstract: The invention relates to a machine for producing a tubular product (T) by means of helical winding of strips of web material, comprising a mandrel (4) and a winding member (7) to helically wind the strips (S1, S2) of web material around said mandrel. To improve adhesion between the strips at least one pressure member (31) is provided, cooperating with the mandrel, disposed downstream or upstream of the winding member (7) with respect to the direction of advance (fT) of the tubular product being formed on said mandrel. The pressure exerted by the pressure member promotes adhesion of the strips forming the product.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.